

**FINANCING AND MARKETING
HORTICULTURAL PRODUCTS IN GHANA:
THE PROSPECTS FOR EXPORT GROWTH**

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Abstract

The objective of this study was to analyze the horticultural sub-sector in Ghana. Specifically, the study documented and evaluated the current and potential role of the horticultural sub-sector as the expansion of non-traditional exports (NTEs) is promoted to relieve foreign exchange scarcity. Horticultural crops are defined as all fruits and vegetables as well as root crops, flowers, and ornamental crops. Pineapples, vegetables (Asian-type and others), and yams received particular attention because of their promising potential for expansion and hence their strategic importance in contributing to the country's agricultural export diversification policy.

This study utilized the modified agri-business subsector framework established by researchers at the Ohio State University to determine the marketing arrangements, the nature of the firms, and the coordinating mechanisms chosen to facilitate the flow of commodities in the horticultural subsector. Under the modified subsector approach, financial and informational markets are specifically included when analyzing the physical flow of commodities. Transaction cost theory is used to analyze how asset specificity, uncertainty, and access to finance and information are the major determinants of institutional arrangements in production and marketing.

The results revealed that several heterogeneous participants are involved in financing and marketing horticultural products in Ghana. The financial arrangements used in the subsector are dominated by self-finance with funds obtained from friends and family, retained earnings from other businesses, or participation in informal groups such as susu clubs or susu collectors. Supplier credits flow freely from the farmer all the way to the importer. However, formal finance is confined almost exclusively to well established large exporters.

While finance is a constraint for many exporters of horticultural products in Ghana, it is not as large a constraint as the lack of infrastructure, research and development, and adequate government policies which contribute more towards giving exporters the competitive edge required in world markets.

Ghana's recent impressive economic performance is still dependent on a continued increase in agricultural exports. The horticultural subsector appears to offer good prospects for continued growth and foreign exchange earnings once the major constraints have been eliminated.

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EXECUTIVE SUMMARY

The objective of this study was to analyze the horticultural sub-sector in Ghana. Specifically, the study documented and evaluated the current and potential role of the horticultural sub-sector as the expansion of non-traditional exports (NTEs) is promoted to relieve foreign exchange scarcity. Horticultural crops are defined as all fruits and vegetables as well as root crops, flowers, and ornamental crops. Pineapples, vegetables (Asian-type and others), and yams received particular attention because of their promising potential for expansion and hence their strategic importance in contributing to the country's agricultural export diversification policy.

This study utilized the modified agri-business subsector framework established by researchers at the Ohio State University to determine the marketing arrangements, the nature of the firms, and the coordinating mechanisms chosen to facilitate the flow of commodities in the horticultural subsector. Under the modified subsector approach, financial and informational markets are specifically included when analyzing the physical flow of commodities. Transaction cost theory is used to analyze how asset specificity, uncertainty, and access to finance and information are the major determinants of institutional arrangements in production and marketing.

The information analyzed in this study was gathered during field research in Ghana from February to April 1994 through interviews with producers, exporters, and other marketing agents that make up the horticultural sub-sector including fertilizer dealers, transportation, and insurance agents. Government officials, public institutions promoting non-traditional agriculture, and research and extension centers were also consulted. A survey of traders of yams, fresh fruits and vegetables in eight markets in Accra and its surrounding areas was also carried out. These markets included Madina, Kaneshie, Agbogbloshie, Kasoa, Osu, Nsawam, Aburi, and Konkomba.

II. Importance of the Horticultural Sub-Sector in the Economy

Historically, Ghana has relied on the traditional exports of cocoa, timber, and gold to earn foreign exchange. In its efforts to diversify its agricultural sector, for the past ten years Ghana has promoted non-traditional agricultural exports (NTAEs) and in particular horticultural products. Exports of non-traditional agricultural products represented 34 percent of all non-traditional exports (NTEs) in 1993 and earned more than US\$13 million. However, this is a noticeable fall from the US\$27 million earned in 1989. While NTAEs have sharply fallen as a share of NTEs, the export of processed and semi-processed products has been rising over the years, earning US\$15 million in 1989 and US\$25 million in 1993. The bright spot in the agricultural sector is reflected in the growth of the horticultural subsector. Horticultural products accounted for 36 percent of the value of all NTAEs with close to US\$5 million in foreign exchange earnings in 1993 compared to US\$1.6 million in 1988. The horticultural subsector has

been dominated by pineapples which accounted for 25 percent of total non-traditional agricultural exports. Other horticultural exports have been steadily growing, and in 1993 yams represented 8 percent of NTAEs. The export of Asian-type vegetables such as okra, aubergines, courgettes etc., while still negligible (1 percent of NTAEs) offer good prospects for future growth.

III. Financial Arrangements in the Horticultural Business

The most common financial arrangements found among the market traders (wholesalers and retailers) are credit and cash sales with almost no advance payments or sales on consignment. None of the traders reported saving with a formal financial institution or ever getting a loan from a formal bank. Trade credit seems to flow freely downstream from wholesaler to retailer to the final regular customer. In general, most traders have relied on savings to start their business and working capital is obtained either from retained earnings or loans from informal sources. Just like small farmers who have not built up a reputation and thus cannot access formal credit, the majority of traders rely on informal finance for most of their operations including working capital.

Among horticultural exporters, self-finance appears to be by far the most common method of launching a new venture. Bank finance is limited to short-term credit and letters of credit (LCs) as well as overdraft facilities from local banks. However, most exporters have access to overseas banks especially for the provision of LCs. Other formal financial arrangements are trying to fill the gap left by the banking sector. These include venture capital firms as well as special export credit programs launched by the donor community. Supplier/exporter credit to overseas importers also plays an important role in the export market.

IV. Potential For and Constraints Faced by Producers of Horticultural Exports

The potential for Ghana's horticultural export growth is good given that the demand for horticultural products is still growing in Europe (although at a slower rate than previously) and in the rest of the developed world. However, while considerable progress has been made in the non-traditional agricultural sector, our research finds that farmers and agribusinesses are still confronted with many constraints, most of which can be resolved with a firm government commitment. Key constraints in production and infrastructure, and of a technical nature still limit Ghana's export potential.

V. Conclusions and Recommendations

Ghana's recent impressive economic performance is still dependent on a continued and significant increase in agricultural exports. The horticultural subsector appears to offer good prospects for continued growth and foreign exchange earnings. This study has revealed that several heterogeneous participants are involved in financing and marketing horticultural products in Ghana. Financial arrangements in the subsector are dominated by self-finance with funds obtained from friends and family, retained earnings from other businesses, or participation in

informal groups such as susu clubs or susu collectors. Supplier credits flow freely from the farmer all the way to the importer. However, formal finance is confined almost exclusively to the well established large exporters. In fact, banks are usually conservative in their lending practices and have played a relatively limited role in financing horticultural businesses in Ghana. Nonetheless, it is unrealistic to expect commercial banks to assume the high risks involved in financing horticultural activities, especially in the absence of insurance and rediscount facilities. This is legitimately the role of venture capital and joint ventures. No new enterprise should expect banks to finance its birth given the uncertainties involved and this is the reason why other sources of finance are sought by new entrepreneurs. Once established with a solid reputation, entrepreneurs can expect to get short-term loans, overdraft facilities and letters of credit facilities from banks. However, access to term finance is still very limited for entrepreneurs, and venture capitalists seem reluctant to invest in the subsector.

Finance is a constraint for many exporters of horticultural products in Ghana but it is not as serious a constraint as the lack of infrastructure, research and development, and adequate government policies. Donors and governments must recognize the limitations of any finance-led strategy as no amount of external finance can overcome policy distortions, inadequate infrastructure, and weak support systems for entrepreneurs. While special government and donor programs to provide finance to horticultural producers are an attempt to solve market failure in the subsector, credit guarantee programs are far from being a panacea. The Asian experiences suggest a rather limited impact of special export promotion programs.

Donors and governments should be involved in the creation of support programs that improve access to information, market match-making, and research. Creating and/or strengthening local producer associations, encouraging producer memberships in international associations, and supporting producer participation in trade fairs overseas will help producers overcome some information problems. This would also help establish better marketing channels for their products. Strong producer associations should be able to deal more effectively with the government as well as with overseas importers. They can also organize producers to create the critical mass of production necessary to penetrate certain markets. Also, associations can foster the creation of independent private standard boards that would be helpful in guaranteeing the quality of Ghanaian products being shipped to Europe. Also, the unavailability of insurance for horticultural products should be adequately resolved.

While important progress has been made in developing the non-traditional agricultural sector, many constraints still need to be removed. Ultimately, the prospects for agricultural exports, and especially for the horticultural subsector, remain dependent on continued policy reforms promoting export growth, an increase in the European demand for Ghanaian horticultural products, and Ghana's ability to meet competition in the international markets by offering a regular supply of quality products at reasonable prices.

FINANCING AND MARKETING HORTICULTURAL PRODUCTS IN GHANA: THE PROSPECTS FOR EXPORT GROWTH¹

by

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I. Introduction

Ghana is a country in West Africa which covers 240,000 square kilometers with a population estimated at 15.8 million people in 1992. With an average annual population growth of 3.0 percent over the period 1987-92, Ghana's population is projected to reach 17 million by 1995 and 38 million by the year 2025. The population remains largely rural at about 10.1 million people in 1991. Classified as a low-income country, Ghana realized a gross national product (GNP) per capita of US\$450 in 1992 (World Bank Social Indicators, 1994).

When Ghana became independent in 1957, its economy was one of the strongest in Sub-Saharan Africa. Up to the early 1960's, Ghana had one of the highest levels of income and one of the best social and economic infrastructures in Africa. Then the economy experienced a prolonged decline due to several factors including inappropriate development policies and political instability that lasted through the 1960's and the 1970's. By the end of 1981, when the present government assumed power, the economy had almost collapsed. Because ending the economic and social crisis was one of the main concerns of the government, it almost immediately engaged in a structural adjustment program.

Ghana launched its economic recovery program (ERP) in 1983 and the country's recent performance has been impressive. For the period 1984-1991, real GDP has averaged 5 percent annual growth, with per capita real growth of about 2 percent. Services and industry have shown rapid and consistent growth. In fact, much of the growth came from the service sector which accounted for 77 percent of total growth while industry contributed 18 percent to overall growth. Agricultural growth has, however, been rather disappointing contributing only 5 percent of total growth (World Resources Institute, 1994). Ghana's economy is still based mainly on agriculture which represented 51 percent of GDP in 1986 and 49 percent in 1992, with the industrial sector accounting for 15 percent and services for 43 percent (table 1). Given the relative importance

¹ Sincere thanks to the enumerators Louis Boakye-Yiadom, and Godwin Yao Dogbey from the University of Ghana in Legon who helped us conduct the markets survey. We are also grateful to Mr. Seth Evans Ado, consultant from the Ministry of Trade and Industry in Accra. We were fortunate to be assisted during our trip in Kumasi by Dr. Kasim Kasanga and his colleague and assistant James B. Aidu, both from the University of Science and Technology in Kumasi. Special thanks to all the people who kindly gave us some of their precious time to answer our questions especially exporters in Ghana and French importers in Paris.

of agriculture in the Ghanaian economy, strong agricultural growth could have a significant positive impact on the rest of the economy, and the government has rightfully designated the horticultural subsector as an area that needs to be promoted for purposes of agricultural diversification and foreign exchange earnings.

A. Objective of the Study

The objective of this study is to analyze the current state of the horticultural subsector in Ghana. It is part of a series of case studies being conducted for the Africa Bureau, USAID. Specifically, this study will document and evaluate the current and potential role of the horticultural subsector as the expansion of non-traditional exports (NTEs) is promoted to relieve foreign exchange scarcity. Horticultural crops for this study are defined as all fruits and vegetables as well as root crops, flowers, and ornamental crops. Pineapples, vegetables (Asian-type and others), and yams will receive particular attention because of their promising potential for expansion and hence their strategic importance for the country to carry out its agricultural export diversification policy.

This report will first assess the importance of the horticultural subsector in the Ghanaian economy. Then, the major participants in the subsector will be identified followed by a discussion of the financial arrangements that accompany market transactions in the subsector, the marketing structure, the export finance systems, and, lastly, the potential and constraints faced by the subsector. Conclusions and recommendations are presented in the final section.

B. Methodology

This study follows the modified agri-business subsector framework established by researchers at the Ohio State University. The agribusiness subsector approach considers the flow of commodities in a specific market through different channels involving heterogeneous participants under a competitive institutional and regulatory environment (Nagarajan and Meyer, 1993). Under the modified subsector approach, financial and informational markets are specifically included when considering the physical flow of commodities in input or output markets. The marketing arrangements and contracts, and the nature of firms and coordinating mechanisms chosen to facilitate the flow of commodities are all explained using transaction cost theory which states that asset specificity, uncertainty, and access to finance are the major determinants of institutional arrangements in marketing. The information contained in this study was gathered during field research in Ghana from February to April 1994 through interviews with producers, exporters, and other marketing agents that make up the horticultural subsector including fertilizer dealers, transporters, and insurance agents. Government officials, public institutions promoting non-traditional agriculture, and research and extension centers were also consulted. A survey of traders of yams, fresh fruits and vegetables in eight markets in Accra and its surrounding areas was also carried out. These markets included Madina, Kaneshie, Agboghloshie, Kasoa, Osu, Nsawam, Aburi, and Konkomba.

II. Importance of the Horticultural Subsector in the Economy

Historically, Ghana has relied on the traditional exports of cocoa, timber, and gold to earn foreign exchange. In its efforts to diversify its agricultural sector, Ghana has promoted for the past 10 years non-traditional agricultural exports (NTAEs) and in particular horticultural products. Exports of non-traditional agricultural products represented 34 percent of all non-traditional exports (NTEs) in 1993 and earned more than US\$13 million. However, this is a noticeable fall over US\$27 million earned in 1989 (table 2). While NTAEs have sharply fallen as a share of NTEs, the export of processed and semi-processed products² has been rising over the years, earning US\$15 million in 1989 and US\$25 million in 1993 (table 2). The bright spot in the agricultural sector is reflected in the growth of the horticultural subsector. Horticultural products accounted for 36 percent of the value of all NTAEs with close to US\$5 million in foreign exchange earnings in 1993 compared to US\$1.6 million in 1988 (table 3). The horticultural subsector has been dominated by pineapples which accounted for 25 percent of total non-traditional agricultural exports (table 3). Other horticultural exports have been steadily growing, and in 1993 yams represented 8 percent of NTAEs. The export of Asian-type vegetables such as okra, aubergines, courgettes etc., while still negligible (1 percent of NTAEs) offer good prospects for future growth.

Ghana's exports (agriculture and non agricultural products) go mainly to Europe. About 85 percent of Ghana's exports go to countries in the European Economic Community (EEC). Only a small portion of recorded trade occurs with regional partners such as the members of the Economic Community of the West African States (ECOWAS), although a large portion of unrecorded trade undoubtedly flows into these markets. The United Kingdom (U.K.) was formerly Ghana's biggest trading partner, but its share has lost ground in favor of other EEC and European countries such as Belgium, France, Germany, Italy, and Switzerland due to a prolonged period of depressed prices for horticultural products in the United Kingdom.

III. Major Participants in the Subsector

A. Producers of Horticultural Products

1. Pineapple production

Pineapple production in Ghana is dominated by a handful of large producers who are all owners of plantations in the pineapple belt of Nsawam and Aburi in peri-urban Accra. Data gathered by the Ghana Export Promotion Council (GEPC) revealed that the six largest producers were responsible for marketing 4,502 tons of the total 8,453 tons of pineapples exported in

² Processed and semi-processed products include wood products, aluminum products and agricultural products such as canned food and beverages like palm nut cream soup, pineapple juice/slices, canned garden eggs, orange juice, pepper puree, and canned shitto.

1993. This accounted for 53 percent of all quantities exported for a value of close to US\$2 million, i.e. 57 percent of the value of all pineapple exports. These large producers are also exporters who regularly buy from outgrowers to supplement their own production. Outgrowers represent an important element responsible for the steadily increasing export volumes during recent years since there has not been much expansion of large scale plantations.³ In one case, up to 50 percent of the exporter's shipment was made up of outgrowers' products. In villages like Sam-sam, outgrowers have started to organize themselves to negotiate better with exporters who provide them with plant suckers, chemical inputs, and packaging materials. Outgrowers do not usually obtain any technical assistance from the exporter. They are provided with the chemical Ethrel that is sprayed on pineapples to bring out the colors required for export. The largest producer, Combined Farms Ltd., uses 500 hectares of land for pineapple cultivation and 200 laborers of which 50 are permanent workers. Outgrowers and other small producers' fields are between one and ten hectares. Pineapples are grown all year, but the biggest seasons for export to Europe are Christmas and Easter. Pineapples remain Ghana's most important horticultural export with a total value of exports in 1993, reaching US\$3,472,600, i.e. 70 percent of the value of all horticultural products and 25 percent of the value of all non-traditional agricultural exports (table 3).

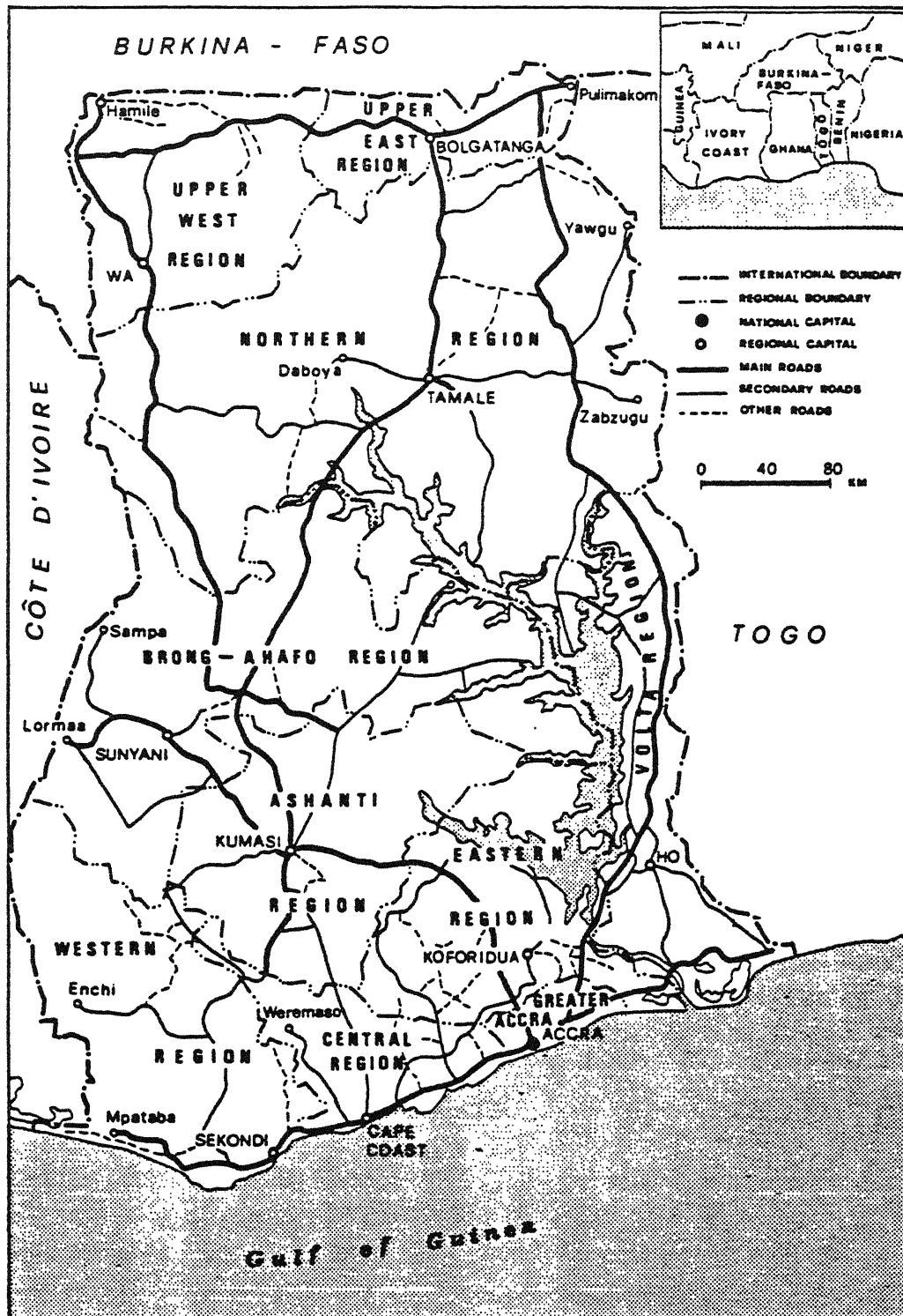
2. Yam production

Northern Ghana and specifically the Tamalé area is the principal yam growing region in the country. However, Ejura in the Kumasi area of the Ashanti region, and the Brong-Ahafo region produce yams as well (see Map on next page). Yams are a staple food in Ghana and hence production is largely dominated by small growers spread throughout many villages. Farm sizes range between 2 to 15 hectares. However, yam exports, similar to pineapples, are dominated by a small number of exporters and their established outgrowers. One major producer/exporter has a farm size of 22 hectares and buys from several outgrowers as well.

Four varieties of yam are used for exports to Europe and more recently to North America. Some characteristics of these four varieties are: (1) **Alaba** yam has a shelf life of several months; (2) **Asana** yam can also be stored for several months; (3) **Dundu Banza** (white yam) has a comparable shelf life but is not particularly tasty; (4) **Puna** yam is the exporter's favorite because it matures early, has an excellent taste, but has a relatively short shelf life. Therefore, Puna yams are sometimes shipped by air. A study of the U.S. yam market found that of the 3,000 tons of yam exports from Ghana in 1991, 350 tons (13 percent) went to the U.S. (AMEX International, Inc., 1994). The demand for yams in the U.S. was reported in the study to be growing at an average of 5 percent per year, giving Ghanaian exporters evidence of a substantial potential market to be explored.

³ One reason why exporters buy from outgrowers may be the difficulty in producing in bulk on the same field the homogenous sized fruit required by importers.

MAP OF GHANA



Source: Sarris and Shams (1991); original source is The World Bank.

In Ghana, yam production has had one of the fastest growth rates in area planted ranking fourth after groundnuts, maize, and cowpeas. Between 1979 and 1989, the growth rate of yam production averaged 6 percent per year compared to 5 percent for all major food crops (Ministry of Agriculture, 1991). The figures in table 3 show the remarkable progress made in the yam business with exports increasing from 0.35 percent of all NTEs in 1986 to close to 3 percent by 1993.

3. Asian and other vegetable production

Producing vegetables in Ghana for export is still an infant industry and is limited to a few entrepreneurs specializing in Asian-type vegetables such as okra, aubergines (eggplants), and beans with farm sizes as large as 250 hectares. From 1986 to 1993, revenues from the export of Asian-type vegetables increased almost 33 fold although estimated at only US\$101,160 in 1993. Other assorted vegetables have had a similar rapid growth from no exports in 1986 to US\$162,000 export in revenues in 1993 (table 3). Vegetable exports, though growing, still represent less than 1 percent of the value of all NTAEs, but offers good prospects to supply niche markets of Asian populations in Europe and elsewhere. More than half (75 percent) of vegetable exporters are of Indian descent with family connections in the U.K. who represent also an important business connection to help capture a larger market share in the growing Indian community. Also, one Indian exporter has established a partnership with a Lebanese business man to sell to the Middle East and particularly to Lebanon, a potentially viable and vibrant market.

B. Consumers of Horticultural Products

1. Pineapple consumption

The bulk of Ghanaian pineapples are shipped overseas to European consumers. Only those products that do not meet export quality are sold in the domestic market to wholesale agents who deliver them to retail market vendors and to local hotels and restaurants as well as fruit juice companies. We learned from our interviews with the management of Astek fruit processing of Accra that the firm has a greater need than ever for outgrowers that will supply fully its plants because of the acquisition of new machinery that can crush 10 tons of pineapples an hour. Astek estimates it would need a supply of 200 tons a week of pineapples to get closer to the full capacity usage of its equipment. Several outgrowers organized to exclusively supply Astek might solve the firm's problem. That would most likely require Astek buyers to enter into formal contractual arrangements⁴ with farmers to deliver pineapples to the company directly rather than through exporters or local market retailers.

Most of Ghana's pineapples are shipped to the EEC (85 percent) with Belgium (48%), Italy (12%), Germany (9.5%), France (9%), and the U.K. (4%) being the principal trade

⁴ This is in contrast to the usual informal arrangements between outgrowers and exporters.

partners for the product in 1993. The rest of the pineapple was sold to Switzerland (14%), Lebanon (1.07%) and Poland (0.20%) (table 4). Lebanon was the most important trade partner after the EEC countries and Switzerland and could become an important export destination for Ghana pineapple. In 1993, US\$37,080 was sold to Lebanon which represented almost 80 percent of the sales to non-European countries. In fact Lebanon offers better prices for pineapples than Switzerland but because of its war history, planes charge high premium wartime insurance which in the end drive the price down for the exporter. Usually, the exporter elects to not buy any insurance and to consequently bear all the risks of the export operation. Trade with the United Kingdom has diminished considerably, slipping from 76 percent of all pineapples exported in 1986, to 37 percent in 1988 to 4 percent in 1993 (table 4). However, trade with Italy has been growing rapidly, from zero in 1986 and 1988 to close to 12 percent of pineapple exports by Ghana in 1993 (table 4). One of the principal reasons behind the market shift, on the one hand, is the depressed prices for horticultural products and especially pineapples in the U.K. market and, on the other hand, a rapidly growing taste for fresh pineapples in the Italian market.

2. Yam consumption

For yams, the principal consumers outside of the Ghanaian local population are the African communities in Europe and North America. More than 71 percent of yam exports go to the EEC with a large part (62%) going to the U.K. (GEPC). Other developed country importers include the U.S. (22%) and Canada (4%) where ethnic markets for yams are important. Unlike pineapples, yams are less perishable and are transported by sea to European and North American markets from the seaports of Tema and Takoradi. In 1993, Ghana exported yams for more than US\$1 million, i.e., 23 percent of the value of all horticultural products. Until recently, the government in Ghana used to consider yams a strategic product for the local population. It had imposed a ban on yam exports in the past when the supply in the country was judged insufficient. In the words of an exporter, the ban on yams in September 1990 "almost killed the industry." Some exporters lost well established trading partners as well as investor's confidence because they were not able to fulfill their promise to supply overseas importers with yams when required. There was also the fear that this kind of situation might reoccur in the future and importers did not want to deal with this market uncertainty. The Ghanaian government has to stop interfering with the market if the yam export sector is to grow and build a solid reputation.

3. Asian and other vegetable consumption

Vegetables such as okra, aubergines, and beans are exported to the U.K. and targeted for the Indian community in the country. There is a great potential for an increase in Ghana's vegetable exports since the producers/exporters are unable to meet the growing European demand. Trying to meet the European demand with high quality products seems to be the attitude of Ghanaian exporters. Apparently they are not concerned by the potential competition from countries like Kenya or Côte d'Ivoire which are traditional Sub-Saharan African horticultural exporters to Europe. Vegetables sold on the domestic market go to hotels and restaurants through wholesalers who specialize in supplying these clients. Some hotels and restaurants also buy directly from market retailers.

C. Market Agents for Horticultural Exports

Market agents in the horticultural subsector fall into the following categories: wholesalers, truckers, commission agents for forward contracting, and retail traders. The nature of the market (domestic vs. export) seems to dictate the type of market agents in the marketing channel. The flow of commodities and the agents involved in the horticultural subsector in Ghana are represented in Figure 1 and are explained in detail in the paragraphs below.

1. Agents in the export market

For pineapples and Asian-type vegetables, the producers in Ghana are usually also the exporters. No specialized exporters (that is those who only export but are not producers) are found in this marketing channel. The producers/exporters usually own the trucks used to transport the produce to the airport.

The situation is somewhat different for yams. At present yams are transported from the farming areas to the yam trading centers in the North. Commission agents representing farmers are located in the trading centers and market the farmers' produce. Wholesalers, most of whom are also truck owners, buy yams from these commission agents, and transport them to the major markets to be resold to exporters or retailers. Independent women wholesalers from Accra, Kumasi, Takoradi, and Tema also send their business partners, known as middlemen or commission agents, to collect yams from specific farmers to whom cash advances have been made earlier in the season.

In an effort to minimize yam spoilage before export and increase the quality of product, there is a proposal by Ghanaian trade authorities for exporters to buy yams in the future directly from a selected group of farmers in areas recognized as suitable growing areas for exportable yams (see Appendix 1). The primary selection of the produce will be made at warehouse centers (yet to be built) near the farming area before yams are sent for final selection at the warehouse (yet to be built) near the seaport. The Ghana Standard Board will make a final inspection of the product to assure that it meets international market specifications before shipment. The proposal for exporters to buy at the farm gate is, however, not welcomed by everyone as some exporters feel that middlemen should be left to play their role in the marketing channel and that trying to compete with them will only result in higher yam purchase prices (Baafuor Sencherey Ltd. report, 1994).

2. Agents in the domestic market

a) Wholesalers

Wholesalers play a vital role in the marketing channel as they link producers with consumers. The results of our market survey of 24 wholesalers of pineapples, yams, and

vegetables⁵ appear in tables 4 to 6. Wholesalers usually own a small shop inside the local market where they store their products. Most wholesale traders are women (75 percent), specialize in one product and have an average of ten years of experience. Their product suppliers are local producers or other market intermediaries i.e. commission agents (table 5). They purchase their product every three days on average with an average value of stock estimated at 321,560 cedis, i.e. US\$346.⁶ The stock is paid for immediately with cash (49%) but 51 percent of all transactions is financed through supplier credit from their suppliers.

In their contractual relations with their suppliers, the wholesalers have access to trader credit with an average loan size of 200,850 cedis (US\$216) for an average of seven days (table 6). Interest is often charged on this trade credit although no collateral or guarantee is given.

Wholesalers also sell on credit to fellow retailers in same market (38% of clients) or to retailers in other markets (45% of clients) as well as to domestic consumers (17% of clients) i.e. local hotels and restaurants (table 7). No sales were made with advance payments or on consignment and no collateral was required for the credit transactions although interest was reportedly charged. All credit transactions of wholesalers were short-term loans (6 days on average) with smaller average loan sizes to clients (93,875 cedis or US\$101) than the amount of credit received from their own suppliers.

b) Retailers

Retailers of the selected horticultural products cater principally to domestic consumers and display their products on a table in the local markets. A total of 93 retailers were surveyed in the eight Accra and peri-urban markets and the results are shown in tables 8 to 10. A very high percentage of retailers were women (95%) with an average of eight years in the business (table 8). They buy once a week from their suppliers who are usually local producers or wholesalers receiving supplier credit (70% of transactions) and paying in cash (30% of transactions). The average loan sizes are smaller than with the wholesalers. Supplier credit averages 54,703 cedis, i.e. US\$59, for a period of five days (table 9). Retailers grant credit to their regular buyers in small amounts (6138 cedis, i.e. US\$7) and for no longer than two days (table 10). Retailers sell mainly to local consumers (84% of clients) as well as to other retailers in smaller markets (16% of clients).

⁵ Vegetables sold in the local markets included fresh pepper, egg plants, fresh tomatoes, onions, carrots, cabbage, cucumbers and courgettes.

⁶ The cedi to dollar exchange rate was approximately 930 cedis per dollar at the time of the survey.

IV. Financial Arrangements in the Horticultural Subsector

A. The Formal Financial System

Five years after initiating its structural adjustment program, Ghana formulated a program for financial sector reform and development in 1988 with the assistance of the World Bank and the International Monetary Fund (IMF). Today, the formal financial sector is comprised of the Bank of Ghana (Central Bank); three primary commercial banks - the Ghana Commercial Bank (GCB), the Standard Chartered Bank of Ghana (SCBG), and the Barclays Bank of Ghana (BBG); seven secondary banks - the Social Security Bank (SSB), the Bank of Housing and Construction (BHC), the Agricultural Development Bank (ADB), the National Savings and Credit Bank (NSCB), the National Investment Bank (NIB), the Merchant Bank of Ghana (MBG), and the Bank of Credit and Commerce of Ghana (BCCG); a small cooperative bank; more than 100 rural banks; and about 300 credit unions. The non-bank financial institutions include the Social Security and National Insurance Trust (SSNIT) and 11 insurance companies.

All the primary and secondary banks accept deposits from the public, and the three largest commercial banks, with 224 branches, account for 60 percent of the total bank deposits. Most commercial banks are majority-owned by overseas banks including the Merchant Bank. With the exception of the ADB which lends about 30 percent of its portfolio to agriculture, the other commercial banks lend very little to the agricultural sector. In fact, industry and more specifically manufacturing has been capturing a larger share of total bank advances while the agricultural sector has been receiving a smaller share of commercial bank credit over the years. Credit to agriculture dropped from 21.4 percent of total commercial loans in 1986 to 14.9 percent in 1992. Industry, however, saw an increase in its share of total bank credit from 41.4 percent in 1986 to 55.3 percent in 1992. Rural banks have also been unable to fill the void created by the lack of commercial lending to agriculture. The outstanding loans and advances to the large number of rural banks customers was 4.8 billion cedis in 1992 and represented only 3 percent of total outstanding bank credit (Bank of Ghana annual reports, 1986-92).

In the horticultural subsector, there is evidence in Ghana of a dualistic system where producers/agents for domestic production deal essentially with domestic sources of funding whereas exporters have access to a larger array of financial sources including domestic as well as off-shore finance.

B. Financial Arrangements at the Domestic Level

The most common financial arrangements found among the market traders (wholesalers and retailers) are credit and cash sales with almost no advance payments or sales on consignment. None of the traders reported saving with a formal financial institution or ever getting a loan from a formal bank. Two traders reported being rejected for a loan by a formal institution for reasons they were not sure about. One trader did receive a loan from a rural bank several years ago. The majority of traders never applied for a commercial loan because they never really thought about it. Trade credit seems to flow freely downstream from wholesaler to

retailer to the final regular customer. In general, most traders have relied on savings to start their business and working capital is obtained either from retained earnings or loans from informal sources. Just like small farmers who have not built up a banking reputation and thus cannot access formal credit, the majority of traders rely on informal finance for most of their operations including working capital. More than half of the 117 traders surveyed reported participating in Rotating Savings and Credit Associations (ROSCAs) or susu clubs and saving with susu collectors to help manage their liquidity needs (table 11). Informal finance is an important part of African economies in general and Ghana in particular. A significant part of the population, including traders, rely almost exclusively on informal finance for financial intermediation. A large number of traders (70 i.e. 60 percent of sample) were involved in informal savings groups. While 36 traders (i.e. 31 percent of sample) saved with susu collectors, an almost equal number of 34 traders belonged to susu clubs. However, simultaneous participation in both informal arrangements does occur and six traders (5 percent of sample) saved with both susu clubs and collectors (table 11). The survey found 24 percent of traders saved exclusively with susu collectors while 25 percent of traders saved exclusively with susu clubs.

The traders surveyed were members of susu clubs that were seasonal in nature (52%) and have been operating for an average of six months (table 11). Most susu clubs have a greater percentage of female members (88 percent) than male members. The organizers of the club were traders themselves as were most members given that the membership criteria was the geographic location, i.e. the markets where all the trader members were located. The membership ranged from a minimum of 3 people to 30 traders at a time and the rotation of the club was fixed by a general consensus (during the regularly scheduled meeting when susu contributions were collected) with the pot being allocated to a designated member every four days on average. Members contributed an average of 529 cedis (US\$0.57) per meeting. Contributions ranged from 400 cedis to 2800 cedis and the principal reason for susu club participation was the savings opportunity.

Saving with a susu collector is as popular as being a member of a susu club. The susu collector phenomenon is quite unique in Ghana where susu collection is the main occupation for most collectors. The greater Accra Susu Collectors Association has an agenda to clean up the negative image that some collectors have created by running away with their members' savings. All reputable susu collectors are members of the Association and pay a membership fee that is deposited with the formal banks. In general, as is apparent from our survey, a susu collector is generally a male (97%). He sometimes has a booth in the market where he operates and goes to the trader to collect the money or the trader comes to him to deposit his/her savings. The collector's fee is usually equivalent to one day's deposit out of every thirty one days' deposits made with the collector. The client chooses the amount he/she wishes to deposit every time (the same amount) and at the end of 31 deposits, he/she gets her full accumulated savings (31 deposits) minus the fee (one day of deposit). Usually, the money is collected every day. Susu collectors usually deposit the funds collected with a bank, invest in their own business, or lend to others (Aryeetey, 1992). However, clients in the survey rarely reported getting a loan from the susu collector. They admit that their main reason for involvement with susu collectors is to

save in the accumulated savings funds for social and kinship obligations as well as for consumption purposes.

C. Financial Arrangements at the Export Level

Unlike local traders, horticultural exporters have a larger array of financial sources to support their business, from self-finance to domestic commercial banks as well as off-shore financial institutions. In addition, the donor community has been involved in the design of specific programs geared at helping entrepreneurs find financial resources.

1. Self-finance

Among horticultural exporters, self-finance appears to be by far the most common method of launching a new venture. Retained earnings from a previous business activity, or own savings are the norm. Cross-subsidization from other business activities is also common.

2. Bank finance

Most exporters in the horticultural subsector own a bank account and get bank services in the form of letters of credit (LCs), and overdraft facilities to finance their activities. However, bank term finance is not easily available for a new horticultural business because of the perception of high risks involved in the subsector. Commercial banks usually grant overdraft facilities to their horticultural customers in the export business, particularly if they are also involved in other businesses. Also a few well established businesses with a solid reputation may be able to get bank loans for investment and expansion. Interviews with several exporters revealed that the entrepreneurs have been able to secure loans from the formal banks and they are also given overdraft facilities needed to conduct their business. However, obtaining long-term loans is nearly impossible from local commercial banks to finance any business in Ghana, especially the non-traditional export sector (see Baydas and Graham, 1994).

3. Other formal financial arrangements

Besides bank finance, businesses can draw upon other forms of finance to secure start-up capital or investment funds. By definition venture capitalists supply capital to firms in high risk situations, such as launching a business or when the firm is denied conventional financing. However, in Ghana and elsewhere in Africa, venture capitalists have been reluctant so far to invest in horticulture. In fact, foreign investors who are the most likely source of venture capital in Ghana seem to prefer joint venture businesses as exists in the case of one pineapple producer/exporter in Accra who is linked to a foreign European air cargo operation. Also, an entrepreneur who is part of a conglomerate business structure will typically have sufficient retained earnings to finance a new business such as horticultural exports. By definition, a conglomerate is typically a large corporation formed through the merger of a number of companies in unrelated, widely diversified activities. The term conglomerate is used loosely in the case of Ghana to characterize a business structure for an entrepreneur engaged in several

unrelated activities. One Asian vegetable exporter represents a conglomerate operation in this sense. His business structure consists of a vegetable farm, a photographic laboratory and several restaurants in Accra and Europe.

There are a few donor projects in Ghana that attempt to address the financial issues faced by exporters of NTEs (non-agriculture and agriculture alike including horticultural products). The Trade and Investment Program (TIP) initiated by USAID/Ghana in 1993 has nine components of which several are specifically geared to helping entrepreneurs find financial resources:

- **The Africa Project Development Facility (APDF)** provides assistance to entrepreneurs in finding financial sources in the domestic as well as the international market.
- **TechnoServe Rural Producer Export Development Program** provides assistance to rural producers through a USAID loan-guarantee fund. TechnoServe is an American NGO and has been operating in Ghana since 1971. In its own words, TechnoServe's organizational mission is to improve the economic and social well-being of low-income, rural people in developing countries through a process of "enterprise development." Technoserve does not give grants nor make loans.
- **The World Bank Export Development Program** in collaboration with USAID includes a loan guarantee scheme and a rediscount program. The program had not started yet as of April 1994.
- **The Ghana Venture Capital Fund (GVCF)** is a first of its kind in Ghana. GVCF is a source of funding for projects through operational funding support from USAID/Ghana and venture capital from Ghanaian partners. Operating since 1993, GVCF has funded three projects, none of them in horticulture.

In addition to helping entrepreneurs find financial resources, one objective of the TIP program is to help establish an enabling environment (i.e. a better regulatory environment) necessary for export development. That indirect support to the non-traditional export sector is bound to benefit all exporters, including the horticultural subsector.

4. Supplier/exporter credit

A fair amount of the horticultural trade involves supplier credit. In fact, deferred payments by European importers are very common for pineapples, yams, and vegetables. This implicit supplier/exporter credit to overseas importers ranges from 15 to 60 days as confirmed by our interviews with several French importers of Ghanaian fruits and vegetables. Sales by consignment are also practiced in a few cases. With the exception of pineapples, the main complaint from the importers is the lack of consistency in the quality of the products provided by Ghanaian exporters. Pineapples originated from Ghana usually arrive in excellent condition in Europe because they are shipped by air. By the same token, Ghanaian pineapples are more

expensive and some French importers refuse to deal with Ghanaian exporters because of the higher prices for their products.

5. Overseas banking

Because the local banking system is inadequate, unwilling, or too expensive to meet their needs, exporters must often turn to foreign banks for export financing. Overseas banks, especially in the European continent, usually provide letters of credit with cheaper terms and conditions than do the domestic banks. The higher cost of credit in Ghana's domestic financial markets in large part reflects the impact of financial market liberalization that has raised local interest rates, crowded out private loans, and promoted a growing supply of remunerative risk free treasury bills in the asset portfolios of domestic commercial banks.

V. Marketing Structure for Horticultural Products

A. Transaction Cost Dimensions

The competitive structure of markets is determined by technical and institutional factors, as well as access to finance and information. Transaction cost economics underscores the strategic role of asset specification and uncertainty as the principal factors that shape marketing arrangements in a given subsector and recognizes that the choice of market technology will ultimately affect access to financial markets. However, financial and informational flows also affect the choice of marketing structure as is argued by researchers at the Ohio State University. The modified agribusiness subsector framework extends the choice of market coordinating mechanisms by firms from asset specificity and uncertainty to the efficiency of financial and informational flows. Limited access to finance and information by many economic agents in developing countries increases their transaction costs and affects their choice of market technologies. As a result, marketing structure is dictated by the nature of the product, the specificity of inputs required for production, and access to finance and information as shown in table 12.

The continuum of marketing arrangements available to the firm or exporter for crop procurement ranges from spot market (cash) purchases to vertical integration, i.e. controlling several aspects of production and marketing of the product. Between these two extremes are contractual arrangements that include long-term contracts. These intermediate contractual arrangements include resource providing, production management, and market specification contracts. In the resource providing contracts, the marketing firms provide market outlets as well as inputs for the production process for their producer clients. Production management contracts leave the marketing firm with increased control over production risks and management since it is concerned about the quality of production. Market specification contracts are open contracts where a marketing firm only promises a marketing outlet to its contracting partners without specifying the quantity to be purchased or prices. In addition, the firm does not commit any of its resources to the production of the commodities. With a high level of asset specificity and

uncertainty, and a low level of access to finance and information, vertical integration will prevail over spot market exchanges and long-term contracts as the mode of marketing arrangements. On the other hand, when asset specificity is medium to low, and access to finance and information is medium to high, long-term contracts will provide buyers and sellers greater flexibility of action. In the case of both low asset specificity and uncertainty, and high level of access to finance and information, spot market purchases are expected to be the most efficient market arrangement.

B. Marketing Pineapples

Fresh horticultural products are generally perishable commodities, implying that spot market purchases will be a risky marketing arrangement for exporters. Asset specificity in pineapple production falls into the “moderate” category as defined by the transaction cost framework in table 12. This is reflected in the medium degree of specialization of material production inputs and technical knowledge required. However, pineapples have a somewhat long production cycle of twelve months from the time the sucker is planted to the first harvest. Uncertainty is rated “medium” because pineapples can keep their freshness and quality for at least two weeks after harvest. Export quality standards, although high, are set within a specified range which allows a certain flexibility. Finally, harvests and deliveries must be timed to meet weekly rather than daily air-freight schedules. Thus, medium asset specificity and moderate uncertainty would likely dictate contractual arrangements other than vertical integration as the most efficient mode of organization for the procurement of pineapples for export (table 13). In fact, the export of pineapples in Ghana is dominated by long-term contractual arrangements. Most exporters are growers but also engage in resource providing contracts with small outgrowers, provide suckers, and control pesticide applications, plantings and harvesting to meet export requirements. Thus, the exporter gains market security by tying the outgrower to himself by contract even though this arrangement appears to be quite informal in Ghana.

The choice of marketing arrangements dictated by the asset specificity and uncertainty in a particular subsector will ultimately affect access to financial markets. More specifically, the stability associated with long-term contracts and vertical integration may be preferred by lenders over spot market arrangements. Also, when significant economies of scale can be gained in the marketing of the product, when technical, financial, and managerial barriers to entry exist, and when transport and communication infrastructure is inadequate, there is a tendency towards vertical integration.⁷

The marketing contracts with pineapples in Ghana appear to have resulted from a response to technical constraints and a possible answer to financial constraints where one case of vertical integration illustrates the case particularly well. The exporter is also a producer, has trucks to transport his produce, has cooling equipment and has gone into the shipping business

⁷ Vertical integration, i.e. owning two or more levels of production or marketing, is usually motivated by the agribusiness firm seeking market power or trying to reduce costs.

by owning a cargo company to air-freight his pineapples. Another exporter has gone into a joint venture with a European air cargo company to circumvent the capacity constraints that exist in dealing with commercial airliners.

C. Marketing Asian Vegetables

Producers of Asian vegetables are also exporters and rely on commercial airlines to ship their products to Europe since their output is currently too small to attract a special air cargo carrier. Because each exporter is also a producer, no contractual arrangements exist locally for product procurement. Growing Asian-type vegetables is somewhat capital intensive and requires specific inputs but the specialized nature of growing these vegetables creates a strong comparative advantage for Asian (mainly Indian) producers in Ghana who draw on a long ethnic history of growing these crops. Also, these producers are well positioned to establish connections to their ethnic markets in Europe. Hence both production and market uncertainties are reduced by ethnic-specific producers. Exporters can rely on off-shore financial institutions and information asymmetries are reduced by agents located in the importing countries. These factors contribute to the choice of medium to long-term contracts as the prevalent marketing arrangement in vegetable trading in this specialized market (table 13).

D. Marketing Yams

Yam production is not capital intensive, nor is it subject to great uncertainties. Exporters who generally buy yams through middlemen or commission agents ship their products by sea. Some Puna yam, which has a shorter shelf life than the white yam, is exported by air. Yams have to be thoroughly fumigated with chemicals to kill all germs before shipment. Exporters have complained of a lack of fumigation facilities in Ghana which subject them to the fumigation rules of the importing country (e.g. U.S.) that may not be suitable to a produce like yam. During transport, yams must be stored at a temperature of 27 degrees fahrenheit and a relative humidity of 73 percent (Ghana Standard Board). The yam subsector in Ghana is characterized by short to medium-term contracts between buyers and sellers because yams involve relatively low uncertainty (yams have a shelf life of several months), low asset specificity due to low technology production practices and low sea-freight costs compared to air-freight (table 13). Also, interlinked contracts between wholesalers and producers provide inputs and cash loans to finance yam production. Well established exporters have access to loans and overdraft facilities from local banks.

VI. Export Finance Systems

A. Export Promotion Policies

Under the new plan of the Ghana Export Promotion Council (GEPC), NTEs are projected to grow 29 percent per year, reaching a level of US\$335 million by the year 1995. This would imply an increase in the NTE sector from 5 to 15 percent of total exports with a special empha-

sis on the development and expansion of non-traditional agricultural exports, mainly horticultural products. To reach this ambitious objective, the Government of Ghana has offered the following fiscal incentives to exporters:

- **Corporate tax rebate scheme:** All firms engaged in exports are given an income tax rebate. Agricultural firms exporting up to 15 percent of their production are eligible for a 40 percent tax rebate. If the quantity exported is 20 percent, the rebate increases to 60 percent, and a 75 percent rebate is given to firms exporting more than a quarter of their production. Unfortunately, the rebate provision applies only to exporter/producers rather than to pure exporters. Authorizing the rebate for marketing firms might induce the development of firms that specialize in offering the marketing services necessary for expansion of the sector.
- **Customs duty drawback/duty exemption policy:** Under the New Investment Code, all export firms are allowed to import machinery and materials duty free. However, at present the policy has attracted only a few exporters because it is cumbersome and has high transaction costs (mainly administrative costs).
- **Profit retention scheme:** This scheme allows exporters to keep 100 percent of their foreign exchange earnings in hard currency. However, the exporter has no freedom to choose where to exchange these earnings. Exporters must go through the formal banking system that usually offers a low inter-bank market rate for this kind of operation compared to the non-bank foreign exchange offices.
- **No export taxes** are levied on any exporter;
- **No export license** is required to export non-traditional goods out of Ghana;
- **A credit guarantee scheme**, a refinancing facility, a credit insurance program, and a supplier's credit scheme are to be introduced shortly to give exporters more financial alternatives.

B. Export Finance

The demand for export finance that currently exists in Ghana is largely unmet because of the natural reluctance of banks to lend to agricultural export firms that are judged too risky for term loans. There are only a few examples of a bank providing post-shipment loans to pineapple exporters such as Eco Bank Ghana. Also, no special insurance yet exists for the shipment of perishables such as fresh fruits or vegetables, and the cost of conventional shipping insurance remains prohibitive. For example, the premium for insuring horticultural exports in Ghana is 10 percent of the value of the cargo compared to only 0.3 percent for other products.

Faced with the reluctance of banks to lend to exporters of non-traditional exports, special programs are being launched to supply exporters with the finance they lack. Thus, the

International Development Association (IDA) of the World Bank in collaboration with the Government of Ghana is launching a US\$51 million project called PEED (Private Enterprise & Export Development Project) aimed at improving the financing of the NTEs. Under the scheme, a special Export Finance Office (EFO) has been set up within the Bank of Ghana. The three major project components are:

- (1) **Export Refinance Scheme:** Short-term export credit in foreign exchange or cedis will be available through participating banks for the pre-shipment and post-shipment of NTEs.
- (2) **Export Credit Guarantee Scheme:** EFO will guarantee up to 65 percent of the pre-shipment loans given to NTEs by participating banks.
- (3) **Technical Assistance:** The Bank of Ghana will organize some export sensitivity training for bankers and, in association with GEPC, will provide specialized training for entrepreneurs (old and new) in the NTEs.

While the PEED program will take care of some of the financial problems that horticultural exporters face, even an unlimited availability of financial resources will not solve the remaining difficulties that exist in the subsector and that represent major constraints to exporters.

VII. Potential for and Constraints Faced by Producers of Horticultural Exports

A. The Potential for Ghana's Horticultural Export Growth

There are good reasons to be optimistic about the expansion of Ghana's agricultural exports. First, the demand for horticultural products is still growing in Europe (although at a slower rate than before) and in the rest of the developed world (table 14). Europe in general and the EEC countries in particular are the most important markets for fresh fruits and vegetables from the African, Caribbean, and Pacific (ACP) countries, and especially Sub-Saharan African countries. In 1992, the EEC countries imported 302,230 tons of fresh fruits and vegetables from the ACP countries, roughly a 6 percent increase over the 284,030 tons of fresh fruits and vegetables imported in 1991 (COLEACP⁸ Bulletin, 1994). Second, the EEC plans to lower its custom duties by 20 percent over the next six years. This should facilitate the access of products from low-income countries, including Ghana, into the European Community. In 1991 and 1992, Ghana ranked fifth among ACP exporters of fresh fruits and vegetables to EEC countries. That favorable ranking was mainly due to pineapples which is Ghana's most important horticultural

⁸ COLEACP (Comité de Liaison Europe, Afrique, Caraïbes, Pacifique) is an international organization with headquarters in Brussels and secretariat in Paris that promotes the export of tropical fruits, off-season vegetables, flowers, ornamental plants, and spices.

export with 7,126 tons exported to Europe in 1992. This is a small amount, however, compared to neighboring Côte d'Ivoire which ranked first by exporting 18 times as much (i.e. 132,062 tons) (table 14). It is worth noting that France is a very important European partner for all ACP countries exporting fruits and vegetables to the EEC. In fact, France was first in imports of several fruits and vegetables in 1992 including fresh beans (15,527 tons), avocados (62,412 tons), pineapples (71,468 tons), and 3,343 tons of limes (table 15). Most imported agricultural products enter Paris through the Rungis wholesale market where the major wholesalers are located. Supermarkets in France rely on Rungis wholesalers for their supplies and are responsible for purchasing 55 percent of all imports. The rest goes to specialized and smaller grocery stores, as well as restaurants in France. Unlike in England, French supermarkets do not deal directly with producers or exporters in foreign markets.

B. Constraints Faced by the Horticultural Subsector in Ghana

Although reforms in the agricultural sector started relatively late in Ghana in 1988, i.e. five years after the first structural reforms were launched, considerable progress has been made. However, our research found that farmers and agribusinesses are still confronted with many constraints, some of which can be dealt with but others are more difficult to solve, thus, limiting Ghana's export potential (table 16).

1. Production and input constraints

More often than not, producers in the horticultural subsector do not have the latest production techniques because they lack information or assistance from research and development agencies for these crops. Inputs have also been cited as a constraint by producers. The fertilizer business in Ghana today is dominated by a single firm (Wienco) which has retail agents in selected regions of the country. The liberalization of the fertilizer sector has resulted in higher prices for growers because subsidies on inputs are no longer provided. Producers are heavily dependent on Wienco and the fertilizer firm may not supply what they want such as the chemical Ethrel for pineapples. This chemical has to be imported from neighboring countries such as Côte d'Ivoire or from Europe. Vegetable exporters complained during our interviews about a lack of seeds for the latest improved varieties, and the seed research center in Accra is not of much assistance.

2. Infrastructure constraints

a) Transport and shipping

The transportation and shipping infrastructure in Ghana has undergone major upgrading but still remains inadequate. Rural feeder roads, which are the critical links with external markets, are bumpy and rough. Marketing facilities such as warehouses, handling facilities, and cold storage or cooler units are underdeveloped or do not exist. Large producers are driven into providing their own cold storage or cooling facilities. Most of Ghana's horticultural products (except for yams) are shipped by air but specialized air cargo carriers are too few and uncertain

to meet the demand. Four major passenger airline companies operate between three and four flights per week to Europe and have some limited air cargo capacity available for Ghanaian exporters. In theory KLM (the Dutch national airline), British Airways, Swissair and Ghana Airways together have up to 50 tons of cargo capacity available at US\$0.86 per kg for loads exceeding 500 kgs. Unfortunately, not all available cargo space can be used by Ghanaian exporters because of restrictions on certain days of the week when cargo space is reserved for some other countries such as Nigeria and Côte d'Ivoire. Thus, there have been several instances of products being left at the airport because the exporter was not able to secure space with the airline.

Exporters also depend on the diversion of charter flights originating from Europe to Nigeria. These cargo flights try to fill their empty cargo space by taking on Ghanaian produce for the return flights to Europe. This makes Ghanaian exporters highly dependent on the state of the Nigerian economy, i.e. on high consumer demands for goods imported from Europe. Other charter airlines include Race Cargo which has at least two flights per week to Belgium and Luxembourg with a freight capacity of 32 tons per flight and charges US\$0.67 per kg. However, the charter cost can double if no return cargo can be identified, and the charter operator may change schedules without proper warning to the exporters. Also, Race Cargo company has occasionally left products at the airport because they were overbooked.

Cargo d'Or is the other charter airline which was started by Combined Farms Ltd., the biggest pineapple exporter to circumvent the limited availability of cargo planes. Cargo d'Or flights guarantee regular air freighted exports for Combined Farms pineapples, and some excess capacity is available for other exporters although scheduling is difficult. Discouraged by the uncertainties in cargo availability, Farmex, another pineapple exporter, has gone into a joint venture with a European cargo plane operator and plans to invest in the future in the cargo business by starting Air Ghana, a cargo and passenger airline.

The limited number and uncertainty of air cargo flights indicates the need for Ghana to improve its transportation system for exports and, in the case of pineapples, to improve the facilities for sea freight. At the moment, four sea freight lines provide regular refrigerated container services to Europe. They are: Maersk Ghana Ltd., Roro Ltd., Umarco, and Delmas. The average freight charges are around US\$ 2,000.00 for a 20 ft container. The major problem with the current lines is the long delay (12 - 20 days) before reaching European ports. Because Ghana does not generate sufficient volume to operate these vessels directly from Ghanaian ports (i.e. non-stop) to Europe, they have to make several stops in other countries to secure more cargo before reaching their final destination. Therefore, Ghanaian cargo is subject to spoilage.

Although air freight rates from Ghana to Europe are competitive (US\$0.86/kg vs US\$0.96 in Côte d'Ivoire), there is a general consensus among experts that Ghana should

expand the sea freighting of pineapples to Europe⁹. But the most limiting factor is the lack of port facilities for packing and loading refrigerated containers. Sea-freighting also requires changes in harvesting and post-harvesting practices, namely, the availability of cooling facilities, packing sheds, port facilities, quality control procedures, and better marketing institutions. A pilot program is already in place to sea-freight pineapples to a Swiss importer who has agreed to purchase 100 tons a week for 20 weeks (2,000 tons) during September 1993 to May 1994. If successful, the results of this experiment should encourage policy makers or private companies to decide on the necessary steps to service larger volumes of sea freight for pineapples.

b) Communications

Communication by telephone, fax, or telex is still a big problem in Ghana and is a major constraint for exporters who have to stay in touch with trading partners in other parts of the world. Telephone lines in particular do not work well in Ghana and this adds another element of uncertainty and additional transaction costs for the exporters and their partners.

3. Financial constraints

Compared to producers in other countries such as Kenya, Côte d'Ivoire, Morocco, and South Africa, the capacity of Ghanaian exporters to obtain export financing is severely limited. Commercial banks usually avoid making even medium term loans, especially if no rediscount facility is available. Also government and donor programs have so far failed to address the long-term finance issue. The problems of the Ghanaian horticultural subsector are compounded by a lack of export insurance to minimize risks. Thus, financial and insurance constraints exist in addition to the other problems that Ghanaian horticultural exporters face, and they need to be addressed in an effort to efficiently promote export expansion. The lack of insurance for exporters of horticultural products contribute to the banks' reluctance to support this activity. Thus, although finance is an important constraint for exporters, it is certainly not the main problem they face. Providing substantial amounts of credit to exporters will not remove the infrastructure problems that severely limit their ability to compete in the world market.

4. Capacity and technical constraints

The capacity of the export sector to develop and expand beyond the current small set of large producers is also constrained by the lack of access to market information and knowledge, the lack of strong marketing support services, and by poor technical skills in production except for the largest farmers. In Ghana, except for the largest farmers, exporters do not have good information about where to sell their products or where to obtain such information despite the existence of the Ghana Export Promotion Council (GEPC), the government agency in charge of

⁹ Grahame Dixie, a consultant from High Value Horticulture (HVH) in London, reported that the market in Europe for air-freighted pineapples is becoming saturated, and the only opportunity for significant expansion of pineapple exports from Ghana is by sea-freight.

disseminating market information. Technical skills are also needed to meet international quality standards required in foreign markets. For these reasons, smaller farmers must produce through outgrower contracts with larger producers who have greater access to market information. Independent private companies such as Bureau Veritas in other countries (Côte d'Ivoire, Madagascar) should inspect the products and guarantee the quality before they leave the ports. Letting the private sector handle quality control would give greater reliability to the inspection.

Most of Ghana's pineapples (95 percent) are air freighted despite the proximity of the two principal harbors of Tema and Takoradi. The constraints faced by Ghana in its desire to complement airfreight exports with sea freight are mainly technical. Ghana needs to increase its volume of pineapple exports to be able to develop a cost effective sea freight trade of pineapples with Europe and take advantage of the new trends in the EEC retail market.

5. Packaging material

There is a severe lack of quality packaging and shipping material for horticultural products from local manufacturers. Most exporters import boxes from Europe where they get quality products at a cheaper price than they can secure locally. Packrite, the local manufacturer in Accra remains unreliable and expensive. Packrite has started to produce better quality packaging materials and is slowly improving its capacity to supply local exporters in the future. Because of the constraint in getting sufficient packaging material at the domestic level, exporters tie up their working capital by importing these materials in advance and storing for future use.

6. Organizational constraint

Horticultural producers in Ghana lack a strong producers association that could be a lobbying force when dealing with the government as well as with overseas importers. Strong producer associations in other countries, e.g. OCAB¹⁰ in Côte d'Ivoire, have been instrumental in the development of the horticultural trade and especially bananas and pineapple exports to Europe. A strong producers association would represent its members at international associations such as COLEACP, and support better producers participation in trade fairs overseas. These actions would certainly help producers overcome some information problems. This would also help establish better marketing channels for their products. It is also the role of the producer association to rally all members to create the critical production mass necessary to penetrate certain markets more efficiently. Also, associations can foster the creation of independent private standard boards that would be helpful in guaranteeing the quality of Ghanaian products before shipment to Europe.

¹⁰ OCAB (Organisation Centrale des exportateurs d'Ananas et de Bananes) is the banana and pineapple producer association which is behind the Ivorian success in the export of these two fruits to Europe.

VIII. Conclusions and Recommendations

Ghana's recent impressive economic performance is still dependent on a continued and significant increase in agricultural exports. The horticultural subsector appears to offer good prospects for continued growth and foreign exchange earnings. This study has revealed that several heterogeneous participants are involved in financing and marketing horticultural products in Ghana. Financial arrangements in the subsector are dominated by self-finance with funds obtained from friends and family, retained earnings from other businesses, or participation in informal groups such as susu clubs or susu collectors. Supplier credits flow in abundance and freely from the farmer all the way to the importer. However, formal finance is confined almost exclusively to the well established large exporters. In fact, banks are usually conservative in their lending practices and have played a relatively limited role in financing horticultural businesses in Ghana. Nonetheless, it is unrealistic to expect commercial banks to assume the high risks involved in financing horticultural activities, especially in the absence of insurance and rediscount facilities. This is legitimately the role of venture capital and joint ventures. No new enterprise should expect banks to finance its birth given the uncertainties involved and this is the reason why other sources of finance are sought by new entrepreneurs. Once established with a solid reputation, entrepreneurs can expect to get short-term loans, overdraft facilities and letters of credit facilities from banks. However, access to term finance is still very limited for entrepreneurs, and venture capitalists seem reluctant to invest in the subsector.

Finance is a constraint for many exporters of horticultural products in Ghana. However, it is not as large a constraint as the lack of infrastructure, research and development, and adequate government policies which contribute more towards giving exporters the competitive edge required in world markets. Donors and governments must recognize the limitations of any finance-led strategy as no amount of external finance can overcome policy distortions, inadequate infrastructure, and weak support systems for entrepreneurs. While special government and donor programs to provide finance to horticultural producers are an attempt to solve market failure in the subsector, credit guarantee programs are not the answer and are far from being a panacea. The Asian experiences suggest a rather limited impact of special export promotion programs (Asian Development Bank, 1990).

Donors and governments should be involved in the creation of support programs that improve access to information, market match-making, and research. Creating and/or strengthening local producer associations, encouraging producer memberships in international associations such as COLEACP, and supporting producer participation in trade fairs overseas will go a long way to helping producers overcome some information problems. This would also help establish better marketing channels for their products. Strong producer associations should be able to deal more effectively with the government as well as with overseas importers. It is also their role to rally all producers to create the critical production mass necessary to penetrate certain markets more efficiently. Also, associations can foster the creation of independent private standard boards that would be helpful in guaranteeing the quality of Ghanaian products before shipment to Europe. Also, the availability of insurance for horticultural products should be adequately addressed.

While important progress has been made in developing the non-traditional agricultural sector, with pineapples as the leading crop, many constraints still need to be removed for the sector to expand in a sustained fashion. Ultimately, the prospects for agricultural exports, and especially for the horticultural subsector, remain dependent on continued policy reforms promoting export growth, an increase in the European demand for Ghanaian horticultural products, and Ghana's ability to meet competition in the international markets by offering a regular supply of quality products at reasonable prices. Only by successfully meeting this competition will Ghana improve its market access and integration with world markets.

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Table 1. Selected Indicators of Growth and Change in the Ghanaian Economy.

Sector	Percent Share in GDP			Average Annual Growth Rate	
	1986	1988	1992	1981-86	1987-91
I. Ag. Sector	50.7	47.4	42.5	-0.2	2.0
II. Industry	13.3	14.4	14.6	-1.8	6.4
• Manufacturing	9.0	9.3	8.7	-0.4	4.5
III. Services	36.0	38.2	43.0	--	--
Total	100	100	100	--	--

-- = Not available

Sources: Ghana Statistical Service and World Bank, 1994.

Table 2. Value and Evolution of Ghana Non-Traditional Exports: 1986-1993 (in US\$1000).

Item	1986	1988	1993 ¹
Agricultural Products	17,816.85	27,059.69	13,702.87
Processed and Semi-processed Products	5,914.24	15,219.55	25,281.23
Handicraft Items	31.07	67.23	1664.72
Total NTEs ²	23,762.16	42,346.47	40,648.82

Note 1: Figures in 1993 are from January to September

2: NTEs = Non-traditional Exports

Source: Ghana Export Promotion Council

Table 3. Growth and Change in Non-Traditional Agricultural Exports: 1986-1993.

Item	1986			1988			1993 ⁷		
	Value in US\$(000)	% of Total NTEs ¹	% of Total Ag. Exports	Value in US\$(000)	% of Total NTEs	% of Total Ag. Exports	Value in US\$(000)	% of Total NTEs	% of Total Ag. Exports
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. Total NTAEs ²	17,816.85	74.98	100	27,059.69	63.90	100	13,702.87	33.71	100
A. Horticulture	549.51	2.31	3.08	1,628.17	3.84	6.02	4,923.55	12.11	35.93
a) Pineapple	433.43	1.82	2.43	1,408.37	3.33	5.20	3,472.60	8.54	25.34
b) Yams ³	84.32	0.35	0.47	183.27	0.43	0.68	1,135.65	2.79	8.29
d) Asian Vegetables	3.04	0.013	0.017	6.92	0.016	0.025	101.16	0.25	0.74
e) Assorted Vegetables	0	0	0	0	0	0	162.72	0.40	1.19
B. Other Ag. Products	2550.67	10.73	14.32	4341.46	10.25	16.04	1312.06	3.22	9.57

Note 1: NTEs = Non-Traditional Exports (include agricultural products and non agricultural products).

2: NTAEs = Non-Traditional Agricultural Exports.

3: Figures for 1993 include cocoyam (taro).

4: Percents in columns 3, 6, and 9 are based on total traditional and non-traditional agricultural exports.

5: Percents in columns 2, 4, and 6 are based on total agricultural and non-agricultural non-traditional exports.

6: Asian Vegetables include Garden eggs/Aubergines, Tomatoes, Ginger, Pepper, Cucumber, Squash, Courgettes, and Okra.

7: January to September 1993 only.

Sources: Ghana Export Promotion Council (GEPC) and Table 2.

Table 4. Pineapple Exports of Ghana into Europe and the Rest of the World.

Countries		1986		1988		1993	
		Value in	Percent	Value in	Percent	Value in	Percent
		US\$ (000)		US\$ (000)		US\$ (000)	
		(1)	(2)	(1)	(2)	(1)	(2)
I.	EEC countries	331.09	76.49	744.50	52.86	2,941.55	84.71
	1. Belgium	0	0	104.09	7.39	1,682.16	48.44
	2. Denmark	0	0	20.38	1.45	54.37	1.57
	3. France	0	0	1.73	0.12	300.74	8.66
	4. Germany (FR)	0.50	0.12	35.54	2.52	330.81	9.53
	5. Italy	0	0	0	0	415.06	11.95
	6. Netherlands	1.58	0.36	53.83	3.82	1.27	0.04
	7. Spain	0	0	0	0	3.60	0.10
	8. United Kingdom	321.51	76.02	528.94	37.56	153.54	4.42
II.	Other Developed Countries	101.78	23.48	483.53	34.33	484.49	13.95
	1. Switzerland	101.78	23.48	439.39	31.20	484.49	13.95
	2. Finland	0	0	35.72	2.54	0	0
	3. Sweden	0	0	3.60	0.26	0	0
	4. Norway	0	0	1.73	0.12	0	0
	5. USA	0	0	3.09	0.22	0	0
III.	Others	0.56	0.13	180.34	12.81	46.55	1.34
	Ecowas	0.06	0.01	3.36	0.24	0.07	0.00
	Egypt	0	0	0	0	2.40	0.07
	Lebanon	0	0	0	0	37.08	1.07
	Poland	0	0	0	0	7.00	0.20
Total		433.43	100	1,408.37	100	3,472.60	100

Source: Ghana Export Promotion Council

Table 5. General Characteristics of Horticultural Wholesalers in Peri-urban Accra Markets, March - April 1994.

Item	Findings
I. No. of sampled wholesalers	24
II. Gender	
1. Female (% of sample)	75%
2. Male (% of sample)	25%
III. Avg. number of years in business	10
IV. Avg. number of Products traded	1
V. Types of suppliers of main product	Local producers Market intermediaries
VI. Frequency of purchase	Every 3 days
VII. Avg. value of stock (in cedis) ¹	321,560.00 (\$ 345.76)
VIII. Form of payment	
1. Cash (% of total transactions)	49%
2. Supplier credit (% of total transactions)	51%

Note 1: 1\$ = 930 cedis

Source: OSU Markets Survey, March - April 1994.

Table 6. Contractual Relations of Horticultural Wholesalers with their Suppliers in Peri-urban Accra Markets, March - April 1994.

Item	Findings
I. Credit	
1. Average loan size (in cedis)	200,850.00 (\$215.97)
2. Average loan length (days)	7
3. Interest rate (% in months)	2.2
4. Guarantee required (% of contracts in sample)	0
II. Advance Payment (% of contracts in sample)	0
III. Purchase on consignment (% of contracts in sample)	0

Source: OSU Markets Survey, March - April 1994.

Table 7. Contractual Relations of Horticultural Wholesalers with their Clients in Peri-urban Accra Markets, March - April 1994.

Item	Findings
I. Type of clients	
a. Domestic consumers	17%
b. Domestic retailers in same markets	38%
c. Domestic retailers in other markets	45%
II. Supplier Credit	
1. Average loan size (in cedis)	93,875.00 (\$100.94)
2. Average length of credit (in days)	6
3. Average interest rate (implicit % month)	1.62
III. Advance payment (% of contracts in sample)	0
IV. Consignment (% of contracts in sample)	0

Source: OSU Markets Survey, March - April 1994.

Table 8. General Characteristics of Horticultural Retailers in the Peri-urban Accra Markets, March - April 1994.

Item	Findings
I. No. of sample retailers	93
II. Gender	
1. Female (% of sample)	95%
2. Male (% of sample)	5%
III. Avg. number of years in business	8
IV. Avg. number of Products traded	1
V. Types of suppliers of main product	Local producers Market intermediaries
VI. Frequency of purchase	Once a week
VII. Avg. value of stock (in cedis)	52,316.00 (\$ 56.25)
VIII. Form of payment	
1. Cash (% of total transactions)	30%
2. Supplier credit (% of total transactions)	70%

Source: OSU Markets Survey, March - April 1994.

Table 9. Contractual Relations of Horticultural Retailers with their Suppliers in the Peri-urban Accra Markets, March - April 1994.

Item	Findings
I. Supplier Credit	
1. Average loan size (in cedis)	54,703.00 (\$ 58.82)
2. Average loan length (days)	5
3. Interest rate (% in months)	5.6
4. Guarantee required (% of contracts in sample)	0
II. Advance Payment (% of contracts in sample)	0
III. Purchase on consignment (% of contracts in sample)	0

Source: OSU Markets Survey, March - April 1994.

Table 10. Contractual Relations of Horticultural Retailers with their Clients in the Peri-urban Accra Markets, March - April 1994.

Item	Findings
I. Type of clients	
a. Domestic consumers	84 %
b. Retailers in other markets	16 %
II. Credit	
1. Average loan size (in cedis)	6138.20 (\$ 6.60)
2. Average length of credit (in days)	2
3. Average interest rate (% month)	1.13
5. Collateral or guarantee (% of contracts in sample)	No
III. Advance payment (% of contracts in sample)	2.15
IV. Consignment (% of contracts in sample)	0

Source: OSU Markets Survey, March - April 1994.

Table 11. Characteristics of Informal Financial Markets for Horticultural Traders in Accra Peri-urban Markets, March - April 1994.

Characteristics		Findings
I.	Sample size	117
II.	Participation in informal finance (% of sample)	70 (60%)
	1. Member of susu clubs (ROSCAs ¹)	34 (29%)
	2. Saved with susu collectors	36 (31%)
	3. Saved with both Susu clubs and collectors	6 (5%)
III.	Characteristics of susu clubs	
	1. Occupation of organizer	Trader
	2. Susu operating for	6 months
	3. Gender	
	a. Female	88%
	b. Male	12%
	4. Susu type	
	a. Continuous	48%
	b. Seasonal	52%
	5. Rotation type	Fixed
	6. Average membership size	39
	7. Membership criteria	Geographic location
	8. Avg. contribution/member/meeting (in cedis ²)	529
	9. Avg. length of drawing	4 days
	10. Reason for susu participation	Savings opportunity
IV.	Characteristics of susu collector	
	1. Principal occupation	Susu collector
	2. Gender	
	a. Female	3%
	b. Male	97%
V.	Terms and conditions of susu collector	
	1. Collector fee	1 day deposit
	2. Interest charge (in months)	3.33%
	3. Avg. amount saved with collector (in cedis)	121
	4. Avg. loan amount with collector	0
	5. Reason for saving with collector	Social and kinship obligations

Source: OSU Markets Survey, March - April 1994.

Note 1: ROSCAs = Rotating Savings and Credit Associations.

Note 2: \$1 = 930 cedis.

Table 12. Factors Affecting the Choice of Marketing Structure: A Paradigm.

Item	Marketing Arrangements			
	Vertical integration	Medium to Long-term Contracts	Short-term Contracts	Spot Markets
I. Asset Specificity	High	Medium	Low	Low
a) Production cycle	Long	Long to Medium	Short	Short to Medium
b) Economies of scale	High	Medium	High to Medium	Low
c) Input specification	Medium	Low	Low	Low
II. Uncertainty	High	Medium	Low	Low
a) Perishability	Low	Low	Medium	Medium
b) Quality specification	High	Medium to Low	High	Medium
c) Timing specification	Medium	Medium to Low	High	Medium
III. Access to Finance	Low	Medium to low	Medium to High	High
IV. Access to Information	Low	Medium to low	Medium to High	High

Sources: Adapted from Jaffee (1992), Nagarajan and Meyer (1994)

Table 13. Marketing Structure and Financial Arrangements in the Ghanaian Horticultural Subsector.

Item	Pineapples	Yams	Asian Vegetables
I. Asset Specificity	Medium	Low	Medium to High
II. Production and Market Uncertainty	Medium	Low	Medium to High
III. Access to Finance	Medium	Medium	Medium to High
IV. Access to Information	Low to Medium	Medium	Medium to High
V. Marketing Arrangement	Long-term Contracts	Short to Medium-term Contracts	Medium to Long-term Contracts

Sources: OSU Interviews, February-April 1994.

Table 14. Imports of Fresh Fruits and Vegetables by the EEC from the Ten Largest ACP Exporters in 1992 (in tons).

ACP Country	Fruits and Vegetables										
	Beans	Aubergine	Sweet pep- per	Avocado	Melon	Strawberry	Pineapples	Mango	Papaya	Chillie	Citrus
Côte d'Ivoire	5	1	-	64	17	-	132,062	2,566	208	-	12
Dominican Rep.	238	4	-	87	69	-	28,891	47	2	3	66
Kenya	14,414	87	1	6,614	7	196	156	448	1	462	40
Swaziland	3	-	-	356	1	-	5	37	-	-	18,693
Jamaica	-	-	-	46	-	-	-	966	936	2	8,313
Ghana	4	4	-	3	-	-	7,126	76	11	153	3
Zimbabwe	353	-	2	-	37	6	7	18	-	31	6,406
Madagascar	60	-	-	40	-	-	8	1	-	35	-
Burkina Faso	3,323	-	-	-	-	-	4	1,232	-	-	-
Senegal	2,780	-	14	20	689	-	-	7	1	164	11
Total	21,180	96	17	7,230	820	202	168,259	5,398	1,159	850	33,544

Source: COLEACP Statistics

Table 15. A Profile of French Imports (in tons) of Selected Fresh Fruits and Vegetables from All Countries--1988 to 1992.

Produce	1988	1989	1990	1991	1992
French Beans	11,925	12,686	15,170	14,588	15,527
Asparagus	209	133	409	415	542
Melons	2,708	4,194	6,090	8,606	8,714
Strawberries	3,490	3,079	3,185	3,776	3,192
Avocados	36,710	52,651	61,332	70,272	62,412
Pineapples	73,125	66,608	78,805	84,062	71,468
Mangoes	6,441	8,016	7,234	9,238	9,872
Papayas	605	757	810	805	840
Limes	2,740	2,871	3,152	3,418	3,343

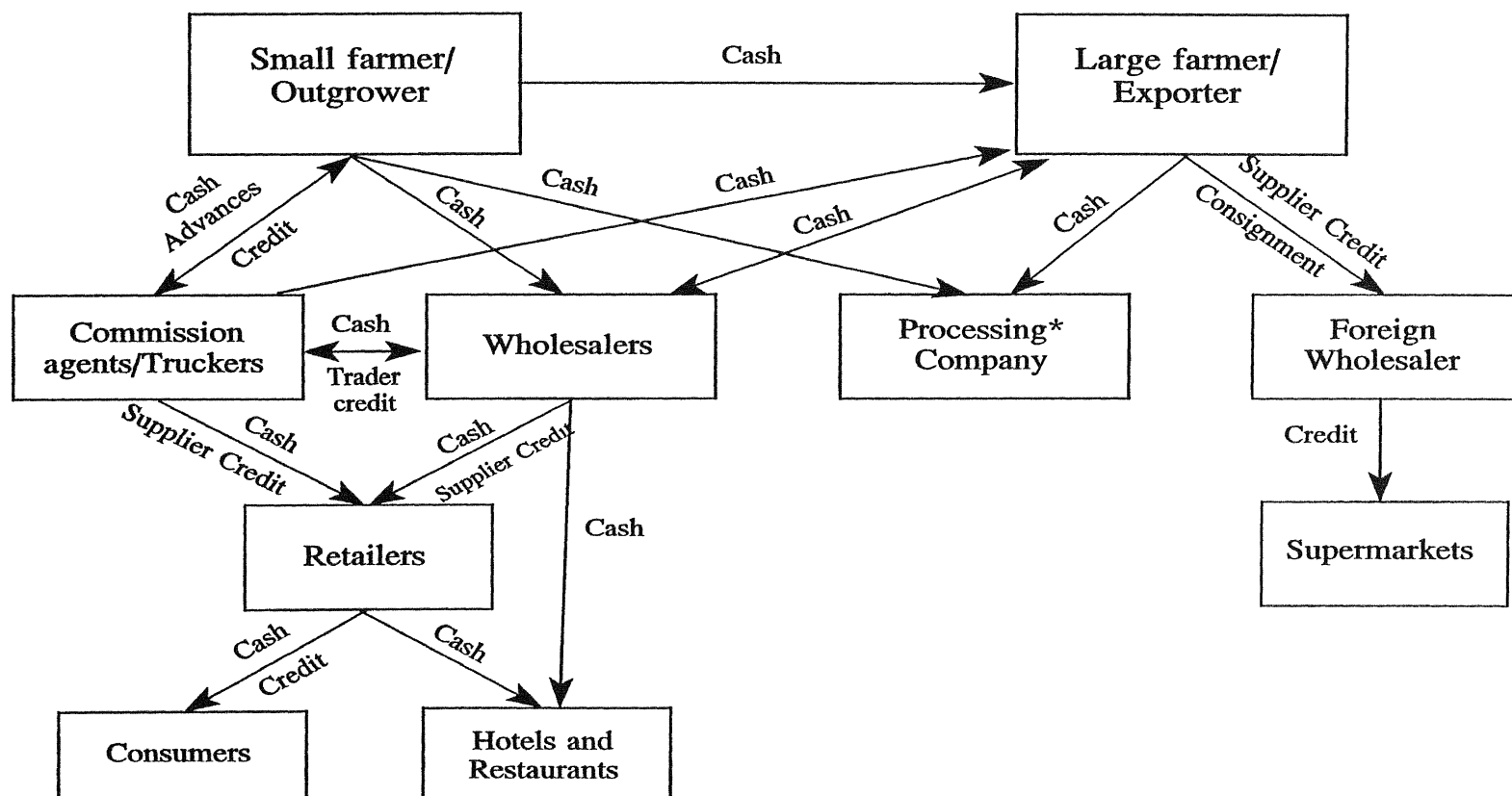
Source: COLEACP Statistics from NIMEXE.

Table 16. Ranked Evaluation of Constraints Identified in Producing, Shipping, Financing, and Marketing Fruits and Vegetables in World Markets.

Constraints	Degree of Seriousness		
	Serious constraint	Exists but can be dealt with	Modest to Negligible
	(1)	(2)	(3)
1. Technical knowledge of production		X	
2. Cold storage availability	X		
3. Feeder road conditions		X	
4. Air shipping			
5. Sea shipping	X		
6. Finance		X	
7. Reliable market info & contacts in Europe		X	
8. Local labor availability			X
9. Skilled labor - overseer, etc.		X	
10. Local research and extension activity	X		
11. Govt. land and resource policies			X
12. Foreign exchange and trade policies			X
13. Macro economic policy environment			X
14. Government reputation			X

Source: OSU survey, February - April 1994.

Figure 1.Commodity and Financial Flows in the Horticultural Subsector in Ghana.



Note*: only pineapples.

Appendix 1. Suitable Yam Production Areas by Government Subdivision.**1. Northern Ghana**

Zabzugu
Tatale
Kpandae
Bimbilla
Kpayansi
Savelugu
Kpalsogu

2. Brong-Ahafo

Kwame Danso
Atebubu
Kintampo (Babato)
Amantin
Nkoranza (Akuma)

3. Ashanti

Ejura

4. Afram Plains

Tease
Fori fori

5. North Volta

Kete krachi
Dambai
Nkwanta
Paso

Appendix 2. Individuals and Institutions Consulted for the Study.

Producers and Exporters in Accra

Manfred Showronck, Director, International Container Transport Coordination, FARMEX business partner

Janne Bodholdt, Local Representative, Intercontinental Container Transport Coordination, FARMEX Business partner

Marvan Traboulsi, Chairman, FARMEX

Stella Owusu Aouad (Mrs), Executive Director, ASTEK Fruit Processing Ltd.

Kofi Bentum-Eshun, Executive Secretary, Horticulturists' Association of Ghana

Kennedy E. Saforo-Baah, Managing Director, KEB Farms Ltd.

H. H. Dhawan, Managing Director, Packrite cartons and packaging industries Ltd.

Daniel O. Safo, Managing Director, Combined Farms Ltd.

S. N. Tackie, Executive Director, Tacks Farms

Joe Addo-Yobo, Managing Director, Adicopa Farms, Ltd.

Cecilia Asiamah-Asiedu, Managing Director, Can & Kaa Ltd., Tropical Food Exporter, Accra

Ben Osei Yaw, Farmer, Hotel supplier

Ravi & Co., Vegetable farm

Healthline Farm

Param Farm

Owusu Afriyie, President, Ghana Yam Producers and Exporters Association

Nsawam Pineapple Outgrowers

Financial Institutions

William K. Whithworth, Managing Director, Ecobank Ghana, Ltd.

Albert Kobina Essien, Deputy Manager Corporate Banking, Ecobank Ghana, Ltd.

Susan Hansen-Quartey (Mrs), Ecobank Ghana Ltd.

Christine Dadson, Director, Citi Savings and Loans Company, Ltd., Fadama branch

B. A. Tetteh, Manager, Abokobi Area Rural Bank, Ltd.

Stan Zaatoh, General Manager, Ghana Co-operative Credit Unions Associations (CUA) Ltd.

Stephen Adu, Financial Controller/Treasurer, Ghana Leasing Co. Ltd.

Osei Opoku, Managing Director, Enterprise Insurance Company Ltd.

Public and Government Institutions

Kasim Kasanga, Dept. of Land Economy & Estate Management, University of Science and Technology, Kumasi

V. K. Nyanteng, Agricultural Economist, Institute of Statistical, Social, and Economic Research (ISSER), University of Ghana, Legon

L. E. Yankey, Principal Scientific Officer, Standard and Specifications Division, Ghana Standard Board, Accra

Eugene Ampene, Principal Export Development Officer, Ghana Export Promotion Council.

S. Korang-Amoakoh, Director, Agricultural Extension Services Dept, Ministry of Agriculture.

Daniel Kwagbenu, Director, Planning, Research, and Project Development, Ghana Export Promotion Council

Samuel K. Dappaah, Chief Director, Ministry of Food and Agriculture

Derrick Agboka, Department of Agricultural Extension and Services, Ministry of Food and Agriculture

French Importers

Michel Legros, Aux Friuts de Juvisy, Rungis, France

Karine Drevin, Attachée Commerciale, S.A. Drevin Exotics Import-Export, Rungis

Pierre Gerbaud, Chargé d'études, COLEACP, Rungis

Jacques Fèvres, Chargé d'études, COLEACP, Rungis

Hotels and Restaurants

Rex Nsiah-Kusi, Purchasing Manager, Golden Tulip Hotel, Accra

Hen van Stralen, Golden Tulip Hotel Executive Chef, Accra

Bob Symondson, Sun Rise Hotel Purchasing Agent, Accra

Maher, Maharaja Indian Restaurant Manager, Accra

NGOs

TechnoServe

Shipping and Airline Companies

Charles Adjei, Cargo Assistant, British Airways Cargo, Kotoka international airport, Accra

C. Nfodjo, Cargo Supervisor, KLM Royal Dutch Airlines, Accra

Watson Shipping Company, Accra

Fertilizer Dealers

Johann A. Krebs, Manager, Reiss & Co (Ghana) Ltd., Accra

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